



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019



MAINTENANCE DREDGING
ST. AUGUSTINE HARBOR ENTRANCE CHANNEL
AND ADJACENT INTRACOASTAL WATERWAY SEGMENTS
ST. JOHNS COUNTY, FLORIDA --

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the Environmental Assessment (EA) of the proposed action. Based on information analyzed in the EA, reflecting pertinent information obtained from other agencies and special interest groups having jurisdiction by law and/or special expertise, I conclude that the proposed action will have no significant impact on the quality of the human environment. Reasons for this conclusion are, in summary:

1. There will be no adverse impacts to endangered or threatened species, if the work is conducted in accordance with the Biological Opinion issued by the US Fish and Wildlife Service for impacts to manatees, nesting sea turtles and the Anastasia beach mouse, and the Regional Biological Opinion issued by the National Marine Fisheries Service for dredging within St. Augustine Harbor.
2. It was determined there would be no effect on properties listed, or eligible for listing, in the National Register of Historic Places. The Florida State Historic Preservation Officer concurred with the no effect determination.
3. The Water Quality Certification (WQC) has been received. The conditions contained within that WQC have been addressed in the Plans and Specifications. Therefore, the State water quality standards will be met.
4. The proposed project has been determined to be consistent with the Florida Coastal Zone Management Program (CZMP). Final confirmation that the project is consistent with the CZMP by the State will occur when the WQC is issued in accordance with the 1979 Memorandum of Understanding and the 1983 Addendum to the Memorandum concerning acquisition of water quality certifications and other State of Florida authorizations.
5. Measures to eliminate, reduce, or avoid potential impacts to fish and wildlife resources will be implemented during project construction.
6. Benefits to the public will be maintenance of the navigation channel, continued local economic stimulus, increased recreational benefits and erosion protection of property from replacing lost beach habitat and increased suitable sea turtle nesting habitat.

In consideration of the information summarized, I find that the proposed action will not significantly affect the human environment and does not require an Environmental Impact Statement.

2 FEB 96

Date

TERRY L. RICE
Colonel, Corps of Engineers
Commanding

JANUARY 1996

MAINTENANCE DREDGING

**ST AUGUSTINE HARBOR AND ADJACENT SEGMENTS OF
THE INTRACOASTAL WATERWAY
ST. JOHNS COUNTY, FLORIDA**

ENVIRONMENTAL ASSESSMENT



**US Army Corps
of Engineers**
Jacksonville District
South Atlantic Division

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1.0. PURPOSE OF AND NEED FOR ACTION.

1.1. INTRODUCTION. The project is located in St. Augustine Harbor and the adjacent segments of the Intracoastal Waterway (IWW), St. Johns County, Florida. When a Federal navigation project is authorized, it is generally the responsibility of the U.S. Army Corps of Engineers to maintain that channel. As part of that responsibility, the channels are monitored for shoaling and if the situation warrants it maintenance dredging is performed. As part of the Federal standard for the project, disposal areas are acquired by the local sponsor. The disposal option with the least cost is designated the baseline for the project. If the local sponsor should desire another option then, that option is cost shared.

1.2. NEED AND PURPOSE. The tidal flows and the littoral transport of sand cause shoaling in the man-made channel which acts like a sedimentation basin. Periodic dredging is required to maintain adequate navigation depths. Surveys indicate sufficient shoaling to justify maintenance.

1.3. AUTHORITY. The harbor was authorized by House Document 133, 81st Congress, 1st Session and the IWW was authorized by House Document 740, 79th Congress, 2nd Session.

1.4. DECISION TO BE MADE. The decision to be made is how best to maintain the Federal channel and where to place the dredged material.

1.5. RELEVANT ISSUES. The following issues have been determined to be relevant to the decision to be made at St. Augustine Harbor:

- a. Water quality.
- b. Navigation.
- c. Manatees.
- d. Seagrasses.
- e. Anastasia beach mouse.
- f. Sea turtles.
- g. Historic Properties.
- h. Recreation.
- i. Aesthetics.
- j. Economics.

1.6. PERMITS REQUIRED. The maintenance dredging and beach placement of the dredged material will require a Florida Department of Environmental Protection Water Quality Certification in accordance with the Memorandum of Understanding between DEP and the US Army Corps of Engineers, and in accordance with Section 401 of the Clean Water Act.

1.7. METHODOLOGY. An interdisciplinary team used a systematic approach to analyze



AUTHORIZATION FOR EXISTING PROJECT		
ACTS	WORK AUTHORIZED	DOCUMENTS
20 June 1938	Channel 27 X 200 feet protected by a groin.	H. Doc. 555/75/3
17 May 1950	Channel 16' x 200' across bar, and then 12' deep to Intracoastal Waterway; jetty on south side of inlet; future landward extension of groin and jetty; and channel 10' x 100' in San Sebastian River	H. Doc. 133/81/1

ST. AUGUSTINE HARBOR, FLA.

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the affected area, to estimate the environmental effects, and to write the environmental impact assessment. This included literature searches, coordination with agencies and private groups having expertise in particular areas, and field investigations.

2.0. ALTERNATIVES INCLUDING THE PROPOSED ACTION.

2.1. INTRODUCTION. The alternatives section is the heart of this Environmental Assessment. This section describes in detail the no-action alternative, the proposed action, and other reasonable alternatives that were studied in detail. Then based on the information and analysis presented in the sections on the Affected Environment and the Probable Impacts, this section presents the beneficial and adverse environmental effects of all alternatives in comparative form, providing a clear basis for choice among the options for the decisionmaker and the public. A summary of this comparison is located in the alternative comparison chart, Table 2.1, page 5. This section has five parts:

- a. A description of the process used to formulate alternatives.
- b. A description of alternatives that were considered but were eliminated from detailed consideration.
- c. A description of each alternative.
- d. A comparison of the alternatives.
- e. The identification of the preferred alternative.

2.2. HISTORY OF ALTERNATIVE FORMULATION. During the construction and subsequent maintenance of the existing channel, dredged materials have been placed in numerous locations including adjacent open water and emergent wetland areas. Sometimes the dredged material from maintenance was placed in these wetland areas to eliminate the wetland characteristics and allow the newly created fast land for residential and commercial development. As more and more areas became upland residential, no upland sites remained and available disposal options became limited. Beach placement became the only viable option. In addition, the State of Florida also requested that all suitable beach quality material be placed on the beach.

2.3. ELIMINATED ALTERNATIVES. With the passage of the Clean Water Act, the placement of dredged material into waters of the United States became more difficult. The State of Florida would not issue water quality certification for placement of this dredged material into these waters. Therefore, the filling of wetlands and the creation of disposal islands were eliminated as alternatives. Upland sites are also not available in the area. Because the material to be dredged is beach quality, the State of Florida objects to the placement in an ocean disposal site and since no ocean sites are within a range which would economically justify its use, the use of an ODMDS site was eliminated.

2.4. DESCRIPTION OF ALTERNATIVES. The only alternative to maintenance dredging is the No Action alternative. Only three alternative disposal options are available other than the No Action alternative; a nearshore disposal area adjacent to St. Augustine Beach, the beach at Anastasia State Recreation Area and the beach at St. Augustine Beach.

2.4.1. No Action Alternative. With this alternative no maintenance dredging or disposal operations would occur.

2.4.2. Alternative 1 - Dredging and Beach Placement at Anastasia State Recreation Area. The proposed work consists of periodic maintenance dredging in the Entrance Channel to the required depth and width of 16 feet by 200-300 feet, with an allowable overdepth of three feet, and the adjacent segments of the Intracoastal Waterway to the required depth and width of 12 feet by 125 feet with a 2-foot overdepth. The material is predominately sand with some shell. It is estimated that approximately 500,000 cubic yards of material will be dredged during this periodic dredging event as necessary to provide safe depths for vessels. Materials will be placed in the beach disposal area adjacent to the Anastasia State Recreation Area. A trapping and relocation program would be implemented for the Anastasia beach mouse. A sea turtle monitoring and nest relocation program would be implemented if construction occurs during the nesting season. A migratory bird protection program would be implemented to avoid nesting areas during the 1 April-31 August nesting season. Special construction techniques would be implemented to avoid impacting recreational pedestrian and vehicular traffic.

2.4.3. Alternative 2 - Dredging and St. Augustine Beach Placement. The proposed work consists of periodic maintenance dredging in the Entrance Channel to the required depth and width of 16 feet by 200-300 feet, with an allowable overdepth of three feet, and the adjacent segments of the Intracoastal Waterway to the required depth and width of 12 feet by 125 feet with a 2-foot overdepth. The material is predominately sand with some shell. It is estimated that approximately 500,000 cubic yards of material will be dredged during this periodic dredging event as necessary to provide safe depths for vessels. Materials will be placed in the beach disposal area adjacent to the St. Augustine Beach. The impacts to recreation, the Anastasia beach mouse, nesting sea turtles and migratory bird nesting, would be mitigated by either submerging the pipeline parallel to the shoreline or burying it along the shoreline. A sea turtle monitoring and nest relocation program would be implemented if construction occurs during the nesting season.

2.4.4. Alternative 3 - Dredging and Nearshore Placement. The proposed work consists of periodic maintenance dredging in the Entrance Channel to the required depth and width of 16 feet by 200-300 feet, with an allowable overdepth of three feet, and the adjacent segments of the Intracoastal Waterway to the required depth and width of 12 feet by 125 feet with a 2-foot overdepth. The material is predominately sand with some shell. It is estimated that approximately 500,000 cubic yards of material will be dredged during this periodic dredging event as necessary to provide safe depths for vessels. The beach area will be utilized whenever possible; however, the nearshore disposal area will be used only

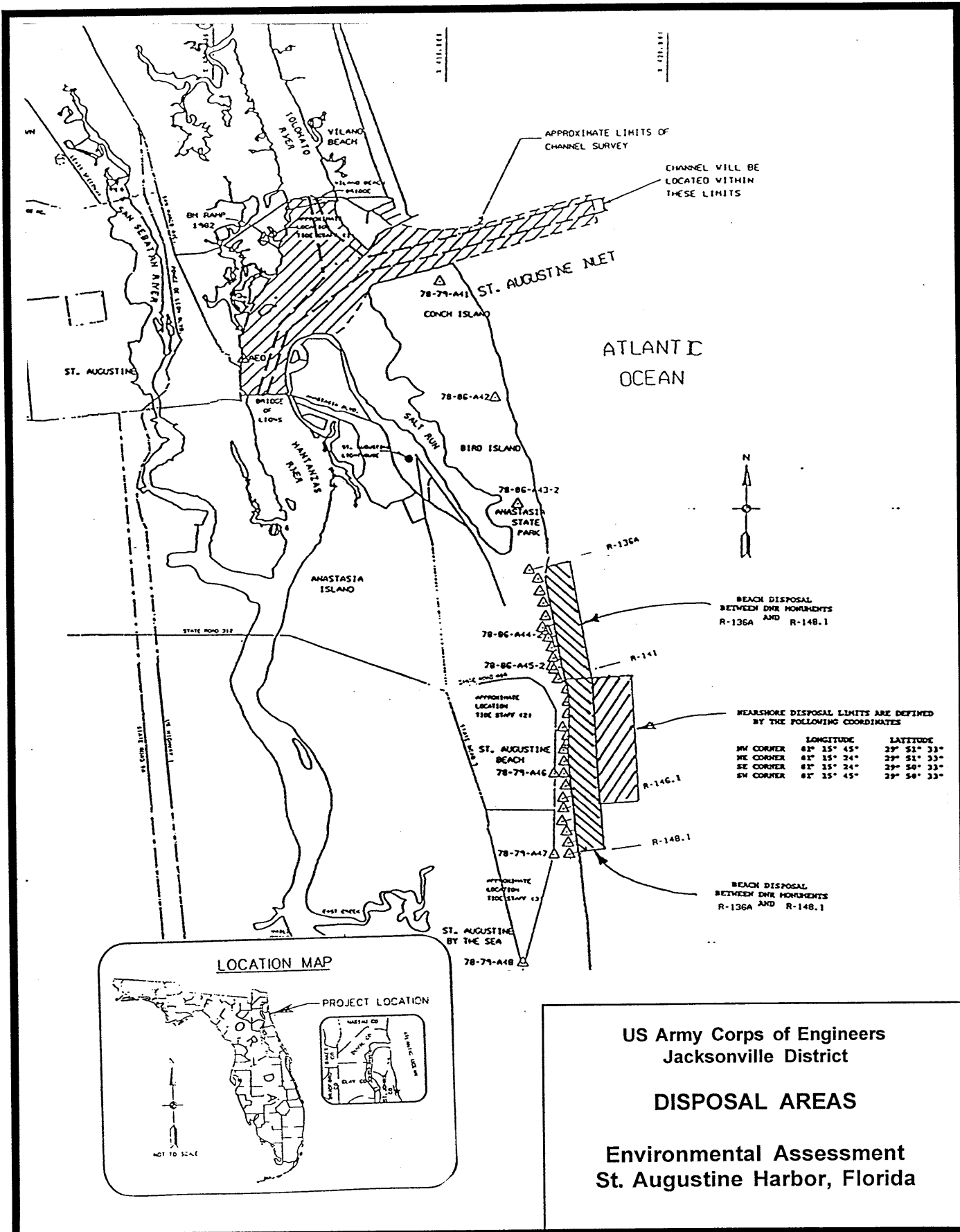


FIGURE 2

2.5. ALTERNATIVE COMPARISON.

Table 2.1, Alternative Comparison

RESOURCES	NO ACTION	DREDGING AND ANASTASIA STATE RECREATION AREA PLACEMENT	DREDGING AND ST AUGUSTINE BEACH PLACEMENT	DREDGING AND NEARSHORE PLACEMENT
Water Quality	No impacts.	Minor short-term increase in turbidity at dredge site and from return water along the beach.	Minor short-term increase in turbidity at dredge site and from return water along the beach.	Minor short-term increase in turbidity at dredge site. Major short-term increase in turbidity in nearshore disposal area.
Navigation	Major decrease in navigable capacity of the channel.	Major long-term benefit to navigation.	Major long-term benefit to navigation.	Major long-term benefit to navigation.
Manatees	No impact.	No impact with inclusion of special manatee protection conditions in contract.	No impact with inclusion of special manatee protection conditions in contract.	No impact with inclusion of special manatee protection conditions in contract.
Seagrasses	No impact.	No impact.	No impact.	No impact.
Anastasia beach mouse	No impact.	No impact with implementation of either avoiding dune environment or capture and relocation program.	No impact from placing pipeline below waterline.	No impact from placing pipeline below waterline.
Sea turtles	Minor reduction in the overall available nesting habitat in the area.	Medium long-term benefit from the maintenance of turtle nesting areas. Minor short-term impact from the relocation of turtles from construction area.	Medium long-term benefit from the maintenance of turtle nesting areas. Minor short-term impact from the relocation of turtles from construction area.	Indirect medium long-term benefit from the maintenance of turtle nesting areas.
Historic Properties	No effect.	No adverse effect.	No adverse effect.	No adverse effect.

RESOURCES	NO ACTION	DREDGING AND ANASTASIA STATE RECREATION AREA PLACEMENT	DREDGING AND ST AUGUSTINE BEACH PLACEMENT	DREDGING AND NEARSHORE PLACEMENT
Recreation	Minor reduction in available beach for recreational purposes.	Medium short-term impact from beach placement of sandy material during recreational season. Medium long-term benefit to recreational activities by maintaining beach.	Medium short-term impact from beach placement of sandy material during recreational season. Medium long-term benefit to recreational activities by maintaining beach.	Indirect medium short-term impact from beach placement of sandy material during recreational season. Medium long-term benefit to recreational activities by maintaining beach in downdrift areas.
Aesthetics	Minor long term reduction in the aesthetics from the loss of beach.	Major short-term impact from the presence and operation of construction equipment on the beach. Major long-term benefit by maintaining the beach environment.	Major short-term impact from the presence and operation of construction equipment on the beach. Major long-term benefit by maintaining the beach environment.	Major short-term impact from the presence and operation of construction equipment on the beach. Major long-term benefit by maintaining the beach environment.
Economics	Minor long-term economic impact from reduction in tourism due to loss of beach and navigation channel.	Medium short-term impact on the local economy from the sale of goods and services in support of the construction. Medium long-term benefit on tourism from the maintenance of the beach and navigation channel.	Medium short-term impact on the local economy from the sale of goods and services in support of the construction. Medium long-term benefit on tourism from the maintenance of the beach and navigation channel.	Medium short-term impact on the local economy from the sale of goods and services in support of the construction. Medium long-term benefit on tourism from the maintenance of the beach and navigation channel.

when conditions, circumstances and funding constraints warrant. Material placed in the nearshore disposal area will be placed as close as possible to the beach to allow the material to be carried by wave action to the adjacent beaches. In order to avoid impacts to recreation, the Anastasia beach mouse, nesting sea turtles and migratory bird nesting, the pipeline will be submerged, parallel to the shoreline.

2.6. PREFERRED ALTERNATIVE. All disposal alternatives are environmentally acceptable. The baseline alternative is the placement of the material in the nearshore area. The selected alternative would be dependent upon the desired results on the respective beach.

3.0. AFFECTED ENVIRONMENT.

3.1. INTRODUCTION. The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected if any of the alternatives were implemented. This section describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those environmental resources that would affect or that would be alternatives if they were implemented. This section, in conjunction with the description of the "no-action" alternative forms the base line conditions for determining the environmental impacts of the proposed action and reasonable alternatives. The environmental issues that are relevant to the decision to be made are the following:

- a. Water quality.
- b. Navigation.
- c. Manatees.
- d. Seagrasses.
- e. Anastasia beach mouse.
- f. Sea turtles.
- g. Historic Properties.
- h. Recreation.
- i. Aesthetics.
- j. Economics.

3.2. GENERAL DESCRIPTION.

3.2.1. The Harbor. St. Augustine Harbor is a man-made channel connecting the Atlantic Ocean with the Intracoastal Waterway (USACE, 1947). It was dredged in 1940 across North Point dividing Vilano Point and Crazy Bank, now referred to as Conch Island. The natural channel was located south of Conch Island and is known as Salt Run. It was closed by the placement of sand along the beach. South of this inlet is Bird Island. The project is divided into two areas, the entrance channel and main harbor area, and the channel in the San Sebastian River. The new harbor entrance connects the Tolomato and Matanzas Rivers. Historically, the two inlets and islands shifted as the sand migrated. The originally proposed entrance channel was to follow the "best natural channel" (USACE, 1956). Over the years this alignment has shifted from the north to the south due to the

2.5. ALTERNATIVE COMPARISON.

Table 2.1, Alternative Comparison

RESOURCES	NO ACTION	DREDGING AND ANASTASIA STATE RECREATION AREA PLACEMENT	DREDGING AND ST AUGUSTINE BEACH PLACEMENT	DREDGING AND NEARSHORE PLACEMENT
Water Quality	No impacts.	Minor short-term increase in turbidity at dredge site and from return water along the beach.	Minor short-term increase in turbidity at dredge site and from return water along the beach.	Minor short-term increase in turbidity at dredge site. Major short-term increase in turbidity in nearshore disposal area.
Navigation	Major decrease in navigable capacity of the channel.	Major long-term benefit to navigation.	Major long-term benefit to navigation.	Major long-term benefit to navigation.
Manatees	No impact.	No impact with inclusion of special manatee protection conditions in contract.	No impact with inclusion of special manatee protection conditions in contract.	No impact with inclusion of special manatee protection conditions in contract.
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Sea turtles	Minor reduction in the overall available nesting habitat in the area.	Medium long-term benefit from the maintenance of turtle nesting areas. Minor short-term impact from the relocation of turtles from construction area.	Medium long-term benefit from the maintenance of turtle nesting areas. Minor short-term impact from the relocation of turtles from construction area.	Indirect medium long-term benefit from the maintenance of turtle nesting areas.
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2.6. PREFERRED ALTERNATIVE. All disposal alternatives are environmentally acceptable. The baseline alternative is the placement of the material in the nearshore area. The selected alternative would be dependent upon the desired results on the respective beach.

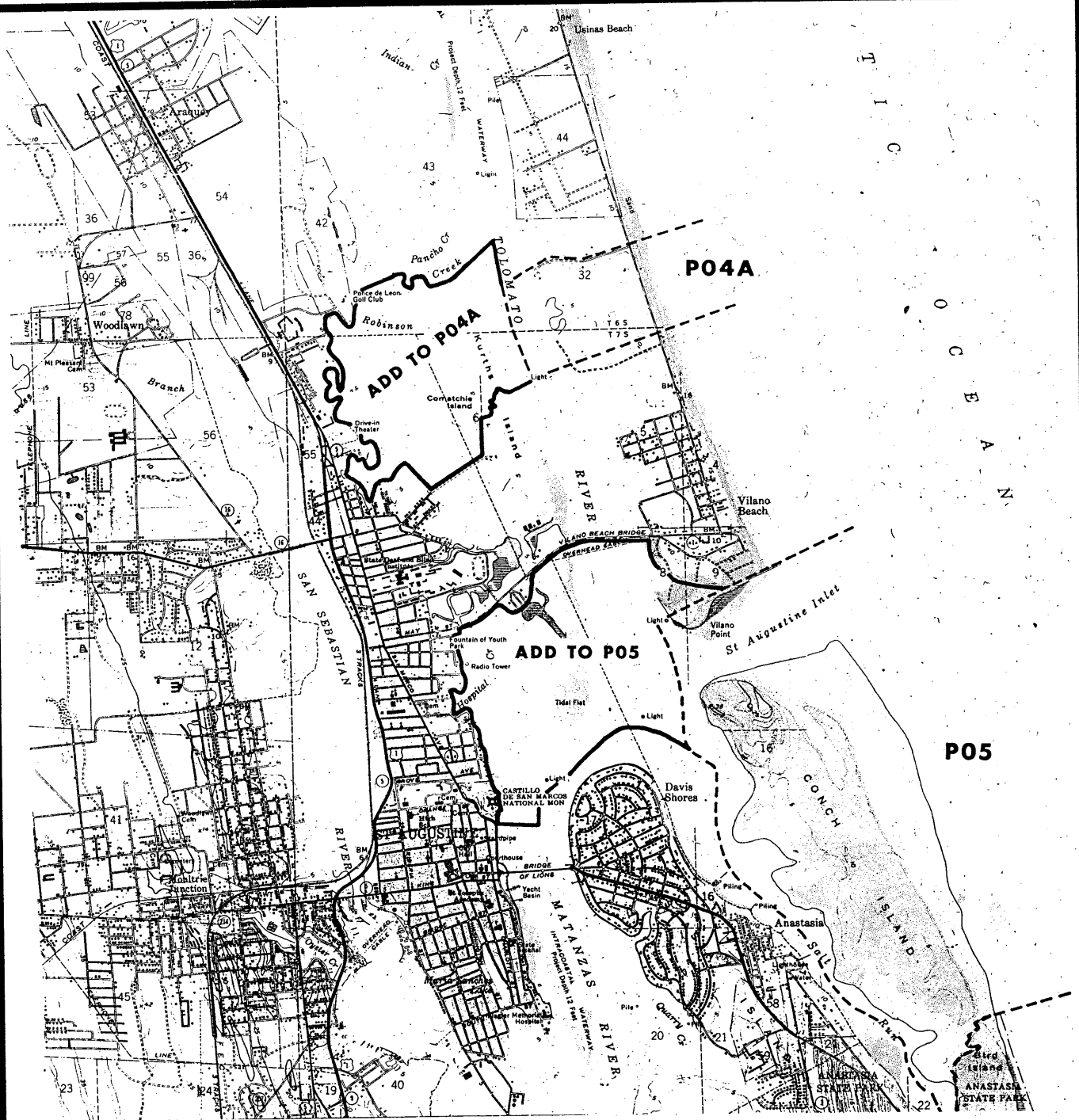
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3.2.1. The Harbor. St. Augustine Harbor is a man-made channel connecting the Atlantic Ocean with the Intracoastal Waterway (USACE, 1947). It was dredged in 1940 across North Point dividing Vilano Point and Crazy Bank, now referred to as Conch Island. The natural channel was located south of Conch Island and is known as Salt Run. It was closed by the placement of sand along the beach. South of this inlet is Bird Island. The project is divided into two areas, the entrance channel and main harbor area, and the channel in the San Sebastian River. The new harbor entrance connects the Tolomato and Matanzas Rivers. Historically, the two inlets and islands shifted as the sand migrated. The originally proposed entrance channel was to follow the "best natural channel" (USACE, 1956). Over the years this alignment has shifted from the north to the south due to the



US Army Corps of Engineers
Jacksonville District

COASTAL BARRIER

Environmental Assessment
St. Augustine Harbor, Florida

FIGURE 3

accretion of sand. The harbor and adjacent beach at the State Park have been designated as part of the Coastal Barrier Resources System by the Department of Interior (Figure 3).

3.2.2. The Beach. The dune system is relatively intact with the Park limits despite the heavy recreational use and vehicles driving along the beach. The dunes are dominated by a mixture of sea oats, beach pennywort, gaillardia, saltwort, sea rocket, railroad vine, prickly pear cactus and beach tea. The federally endangered Anastasia beach mouse (*Peromyscus polionotus phasma*) is located in the primary and secondary dunes. St. Augustine beach is heavily developed and the dune environment is degraded or non-existent. This is due to the construction of homes, hotels, restaurants and condominiums.

3.2.3. The Nearshore Area. The nearshore area is located 3.5 miles south of St. Augustine Harbor. It encompasses 2.7 square miles. The area is sandy bottom with 10 to 20 feet of sand covering the rock substrate. No features such as hardbottoms or rock outcrops are located in this area (USACE, 1993).

3.3. RELEVANT ISSUES.

3.3.1. Physical.

a. Water quality. The inlet is a high energy area influenced by tidal flows and wind and wave action. The accretion of beach quality sandy material in the entrance channel is an indicator. There are no significant known sources of pollution in the area. The tidal flushing affects the Salt Run estuary, the Intracoastal Waterway, and the San Sebastian River.

b. Navigation. The harbor connects the Atlantic Ocean to the Intracoastal Waterway and San Sebastian River. In past years, the harbor supported a large shrimping industry, marinas and boat yards which was located between Eau Gallie Harbor and Jacksonville Harbor (USACE, 1947). As the shrimp industry declined, the boat yards and shrimping facilities closed. The major commercial use of this area is marinas and commercial charter boats. Recreational boaters use these waterways for boating and fishing. Commercial sightseeing boats also provide tours of the harbor.

c. Historic Properties. Significant historic properties, including submerged and terrestrial resources, have been identified along Florida's east coast and in the vicinity of St. Augustine Harbor. St. Augustine Harbor has a 500 year history. Literature searches indicate that several hundred ships were lost in the area, although field investigations have not been conducted to determine precise locations of most of these ships. Significant prehistoric and historic properties may also be located within the proposed beach and near shore disposal areas.

3.3.2. **Biological.**

- a. Manatees. Manatees are found throughout St. Johns County, including St. Augustine Harbor. They primarily use the Intracoastal Waterway and the estuary to migrate and forage for food.
- b. Seagrasses. No seagrasses have been found within the project area.
- c. Anastasia beach mouse. This beach mouse was known historically to be located in an area from the Duval/St. Johns County line southward to Matanzas Inlet. The mice inhabit the primary and secondary dune system.
- d. Sea turtles. "The federally threatened loggerhead sea turtle (*Caretta caretta*) regularly nests on these beaches, while the green (*Chelonia mydas*) and leatherback (*Dermochelys coriacea*) sea turtles nest infrequently on the island" (USFWS, 1994).

3.3.3. **Social.**

- a. Recreation. Commercial charter boats use the waterways to access the ocean for fishing. Local recreational boaters fish in the estuary. Many visitors to the harbor enjoy the historic properties along the waterfront including Fort St. Augustine. Many visitors to the city visit the beaches along both sides of the entrance including Vilano Beach to the north and Anastasia State Recreation area and St. Augustine Beach to the south. Beach activities include sunbathing, swimming, surfing and fishing. Behind the Anastasia Beach in the Salt Run estuary, visitors fish, shell fish and sailboard.
- b. Aesthetics. The beach has its own aesthetic characteristics. The westerly facing beach allows for observations of the setting sun. Sea birds feed in the surf, loaf in the sand and hover in the updrafts generated by the dunes and building along the beach. The surf pounding on the beach offers a relaxing sound.

3.3.4. **Economics.** The beach and navigation channel offers the tourism industry an attraction for generating revenues.

4.0. **ENVIRONMENTAL CONSEQUENCES.**

4.1. **INTRODUCTION.** This section describes the probable consequences of implementing each alternative on selected environmental resources. These resources are directly linked to the relevant issues listed in Section 1.4 that have driven and focus the environmental analysis. The following includes anticipated changes to the existing environment including direct and indirect impacts, irreversible and irretrievable commitment of resources, unavoidable effects and cumulative impacts.

4.1.1. Cumulative Impacts. Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR 1508.7).

4.1.2. Irreversible and Irretrievable Commitment of Resources.

a. Irreversible. An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. One example of an irreversible commitment might be the mining of a mineral resource.

b. Irretrievable. An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. An example of an irretrievable loss might be where a type of vegetation is lost due to road construction.

4.2. **NO ACTION ALTERNATIVE.**

4.2.1. **Physical**

a. Water quality. There would be no adverse impacts on water quality.

b. Navigation. There would be a major reduction in the navigable capacity of within a few years. There would be a major reduction in safety for the passage of vessels through the entrance channel.

c. Historic Properties. The No Action alternative will have no effect on historic resources included, or eligible for inclusion, in the National Register of Historic Places.

4.2.2. **Biological.**

a. Manatees. There would be no impact on manatees.

b. Seagrasses. There would be no impact on seagrasses in the area.

c. Anastasia beach mouse. There would be a long-term minor adverse impact on beach mice from the loss of habitat due to the erosion of the beach and degradation of the dune system.

d. Sea turtles. There would be a long-term minor impact from the reduction in sea turtle nesting habitat from the erosion of the beach south of the entrance, the movement of the sandy material within the littoral drift zone and the shoaling of that material within the Pass.